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(54) Title: MAGNETIC NANOMATERIALS AND METHODS FOR DETECTION OF BIOLOGICAL MATERIALS

(57) Abstract: Biological material in a sample is reacted with a novel functionalized superparamagnetic Fe/Au nanoparticle that specifically binds to the biological material in solution to produce a magnetic particle/biological material complex. The biological material is detected upon application of an external magnetic field which separates the magnetic bound complex from other components of the reaction mixture.